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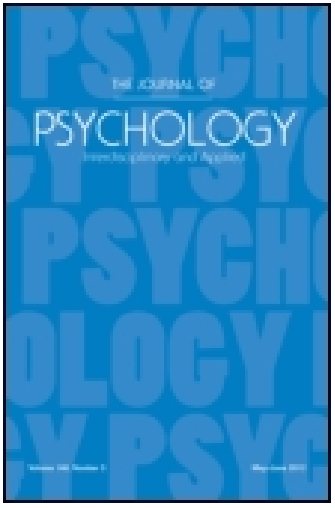

The Journal of Psychology: Interdisciplinary and Applied
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/vjrl20

Sentio, Ergo Sum: "Motivation" Reconsidered

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Published online: 04 Nov 2012.

To cite this article: Hadley Cantril (1967) Sentio, Ergo Sum: "Motivation" Reconsidered, The Journal of Psychology: Interdisciplinary and Applied, 65:1, 91-107, DOI: 10.1080/00223980.1967.10543824

To link to this article: http://dx.doi.org/10.1080/00223980.1967.10543824

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Published as a separate and in *The Journal of Psychology*, 1967, **65**, 91-107.

SENTIO, ERGO SUM: "MOTIVATION" RECONSIDERED* [1]

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A. INTRODUCTION

The term "motivation" as such seems to be somewhat unpopular in general psychology. It is not difficult to see why. For one thing, psychologists have fashioned diverse terminologies to suit their predilections and to provide descriptions of thought and behavior that satisfy their own perceptions of problems. As a result the literature in the field is rife with concepts, such as "drives," "motives," "needs," "goal-seeking behavior," "ego-involvements," "need-gratification," "self-realization," and "self-actualization." Some of the more sophisticated descriptions utilizing such concepts provide valuable insights indeed concerning the intricacies of behavior and the phenomenology of experience, and keep us from becoming too myopic. But in less cautious hands, they often become oversimplified with a single "need" picked out as an "explanatory" concept, or a hierarchy of needs or motives used to pigeon-hole the whole gamut of human behavior and striving. Often, too, the particular words used not only have different meanings for different investigators but change their meanings with the single investigator as he modifies his concepts to fit his new thinking. Some time ago, P. W. Bridgman noted that "the meaning of a word at any epoch is to a certain extent fortuitous, significant of the special features in past usage of the word which happens to have stuck in the memory of the users" (1, p. 251).

Another reason for the apparent demise of the concept "motivation" is certainly that more "hard-nosed" investigators turn their backs on the term and the vagaries of words substituted for it, as they seek specific mechanisms for specific "drives" and insist that there be some demonstrable referent

* Received in the Editorial Office, Provincetown, Massachusetts, on November 22, 1966, and published immediately at 35 New Street, Worcester, Massachusetts. Copyright by The Journal Press.

[1] This discussion is in a sense a sequel to a paper published with Dr. William K. Livingston under the title "The concept of transaction in psychology and neurology" (2). It represents in condensed form a small part of a book Dr. Livingston and the present writer had planned to write after working for nearly 10 years trying to bring out the implications for psychology of modern neurophysiological research. The writer had to abandon the plan for the book with Dr. Livingston's death in March, 1966, just after we had spent a month together in Oaxaca, Mexico outlining the various chapters. The whole discussion here owes much to him.

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within the organism that can be pointed to and, if possible, measured as explanation for a particular segment of behavior. Historically, this emphasis can perhaps be traced back to Descartes who saddled Western thought with his mind-body dichotomy and his mechanistic, atomistic emphasis wherein the interdependency of all aspects of body, mind, and Self and the realities of process and becoming had no place, an approach from which psychology has only within the past few decades partially emancipated itself as more pockets of holistic approaches appear.

We see, then, a wide gulf between behavioristically inclined psychologists, on the one hand, and those psychologists concerned with the full gamut of human behavior including the apparent self-generation of motives, on the other hand. The former often convey the impression that man is a robot, made up of various neurological centers, glandular activities, and moving parts, but without any overall motive power. The latter are impatient with any traditional mechanistic stimulus-response formulations, seem rather unaware of the revolution in neurophysiology, and continue to use a variety of abstractions as "explanations" without much concern as to what their naturalistic bases might be, getting around the problem with speculative qualities or attributes assigned to the intangible "mind" or "person" and creating systems, subsystems, and taxonomies of all sorts, fitting human experience and behavior into them.

Some people who seek the sources of man's motivation have turned to existentialism, perhaps in despair. But this can only prove to be a *cul de sac,* ending up as it does with a nihilism, an artificial bifurcation between the individual and society, and a complete lack of concern for any accounting based on known facts concerning the human organism. Others turn to modern philosophers of science or epistemologists for answers and solace to the complexities of human behavior which, they insist, is not mechanistic but reveals conscious choice and other characteristic qualities unique to human behavior, which can never be accounted for solely in terms of chemistry, physics, cybernetics, etc. But this, even in the best of hands, seems to lead us into some form of vitalism to explain man's consciousness and human qualities and emphasizes all over again Descartes' old dichotomy, ignoring common sense and common observations as well as modern neurophysiological discoveries.

The resulting situation is that psychology seems rather to be straddling the problem of "motivation": either dealing in many cases with partial problems in precise ways, thus sidestepping main issues; or, on the other hand, fashioning concepts as "explanations," making extrapolations, and not bother-

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ing about the possibility of any naturalistic bases for speculation. Because of this state of affairs, other investigators, particularly social scientists, are at a loss to know how to give any valid and adequate account of the complex problems they face when they turn to the psychologist's microcosm for help, whether these problems deal with the family, the community, group or national loyalties and tensions, or international affairs. Often they have to create their own interpretations or fall back on textbook teachings of some simple need theory or unrefined Freudian account.

What the writer is trying to do here is merely to bracket the problem as he sees it, to put his thoughts into the simple language of the empiricist, avoiding technical jargon as much as possible. For the concept of "motivation" dies hard and he feels it can still serve a most useful function for any investigator dealing with the ramifications, the range, and subtleties of individual and social behavior, whether he be a neurophysiologist, a psychologist, or a student of international affairs, if we try to track down what the concept can refer to. The writer is assuming that it is much more important to analyze crucial questions with whatever methods are available, even if they are sometimes fuzzy, than it is to study trivial problems with precise methods and to search for nice quantification. He is particularly interested here in formulating a view of motivation that will at least be consistent with the exciting new developments in neurophysiology reported in the avalanche of information pouring out of the laboratories, in part so that humanistic psychology itself may eventually find some scientifically established underpinning which will clarify definitional problems. It is not the purpose of this article to consider the implications of neurophysiological findings in any detail.[2] The aim here, rather, is to sketch the broad picture now becoming visible.

B. Feeling and the Appetitive Systems

The normal newborn infant can be thought of as a bundle of feelings. When he gets hungry or uncomfortable, he wiggles, tightens up, and makes certain sounds. The baby who has just been fed or relieved of discomfort

[2] A separate article on this subject will appear with the co-authorship of Dr. Robert B. Livingston, Department of Neuro-Sciences, University of California, San Diego. In a few places the two articles deliberately overlap. A lucid account of recent research in neurophysiology will be found in Wooldridge's book, *The Machinery of the Brain* (20); also in R. B. Livingston's article "How man looks at his own brain: An adventure shared by psychology and neurophysiology" in Koch (8). Those interested in more technical aspects of the research will find excellent summaries in the volumes on neurophysiology (edited by H. W. Magoun) in the series *Handbook of Physiology* (12). See especially the following articles in this volume: Galambos and Morgan, "The neural basis of learning"; Lindsley, "Attention, consciousness, sleep and wakefulness"; MacLean, "Psychosomatics"; and Gerard, "Neurophysiology: An integration." Also see French (6).

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gives every impression of being relaxed and produces gurgles of contentment. The feelings of a newborn infant and the undirected behavior accompanying them are built-in activities. They are universal, the same behavior and sounds made by infants in every country the world over. Such early expressions are not expressions of a "mind" or "Self" but of an undifferentiated totality. In expressing these early feelings, the infant, of course, has no conception that anyone will notice them or do anything about them. He seems only to be revealing the fact that "I am uncomfortable" or "I feel great," depending on his bodily state. Descartes would have been more accurate if he had written *Sentio, ergo sum,* since being is more reliably indicated by an awareness of feeling than by any rational thought.

The same point was made by the philosopher John Macmurray in his Gifford Lectures of 1954:

> The infant's original consciousness, even as regards its sensory elements, must be feeling, and feeling at its most primitive and undiscriminated level. What it cannot be is a set of discriminated "animal impulses," each with its implicit reference to a mode of behaviour, in relation to the environment, which would satisfy them. We have no ground for thinking that the newborn child can distinguish between a feeling of pain, a feeling of sickness and a feeling of hunger. This discrimination, too, we must assume has to be learned. The most we have a right to assert, on the empirical evidence, is an original capacity to distinguish, in feeling, between comfort and discomfort. We postulate, therefore, an original feeling consciousness, with a discrimination between positive and negative phases (11, p. 57).

When the infant grows up, no matter where he lives he is likely to use as a common greeting the expression "How are you?" *"Comment ça va?" "Wie geht's?"* according to the language he has learned. Both he and the person to whom he is speaking will understand what is meant by the question and it will not be hard to respond. It will refer to "well-being" in the broadest possible sense. It is feeling that makes the world go 'round. Goethe said *Gefühl ist alles.*[3] It is feeling of some sort reflected by the behavior of any organism that differentiates it from a plant, a machine, or a robot.

While concepts such as "needs," "purposes," "motives," and the like are certainly in no sense "wrong" and good descriptions of them have great heuristic value in helping us understand the phenomenology of experience and behavior, they are not "there" in the organism as entities that have a naturalistic foundation. Hopefully, they themselves, as abstracted ways of starting

[3] Immortality of the soul without a body to give it feelings would be a dull and dreary prospect indeed!

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at the top to slice experience, can be better understood or take on more precise meaning when seen in the light of systems that seem rooted in the organism and are becoming discernible.

Thus in stressing the role of feeling, the writer hopes he is not merely introducing another word to describe "motivation" but is following the implications for psychology of the neurophysiological discoveries of what he thinks may best be termed two great appetitive systems built into the chassis of all living organisms and that act as tuning mechanisms responding to all the transactions with the internal and external environments. The writer will not describe them in any detail here, since this has often been done before (3, 4, 7, 10, 14, 15, 17, 20). His concern here is with the function of these systems in providing a coloration to experience as a base against which significances are judged.

Suffice it to say that both of what William Livingston and the writer termed "appetitive systems" (2) were discovered in 1954: the first by two young psychologists, J. Olds and P. Milner, then at McGill University, who found that electrical stimulation of certain parts of a rat's brain apparently produced clear-cut feelings of satisfaction, or of experiencing something desirable, of wanting more of the same. Later research has shown that there are many parts of the active brain in all higher vertebrates that produce this approach behavior when stimulated. When stimulation occurs in human subjects, they describe their experiences in terms of elation, deep satisfaction, complete relaxation, and the like. The other great system, first noted by J. M. R. Delgado of Yale, was one which, when the brain was stimulated electrically, produced just the opposite effect with every evidence that the animal was suffering extreme pain, anger, and rage. In human subjects, later research has shown that stimulation of various parts of the brain has been described by them as horror, fright, terror, anxiety, extreme depression, and the like.

Livingston and the present writer used the phrase "appetitive systems" to describe these processes rather than any concept of "centers" corresponding to particular "drives." For the experiential and behavioral effects noted by the electrical stimulation of the brain may well be due to large field effects rather than to the activation of particular nerve cells, or may be due to some pattern of impulses transmitted somewhere else in the brain as well as to a whole array of various "mechanisms." The word "appetite" was used following Aristotle's use of the term and because it can avoid the overtones and loadings of a simple hedonistic pleasure-pain principle. The appetitive systems are much more complicated, varied, and subtle than any pleasure-pain

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dichotomy, including as they do both raw emotions and such complex affective states as love, sympathy, and wonder—all of which, too, are subsumed by the concept of "feeling." These appetitive systems can be conceived of as an orchestration of neural mechanisms or a tuned ensemble of many instruments concerned with all the activities of an ongoing organism which have an affective coloration that influences the organism to approach or move away from situations it learns to perceive may affect it for good or ill. They are, of course, subject to the influence of hormones, glandular activity, satiation, and aging, to mention only a few other components of the orchestration.

The main point to stress here is that it is these primitive, built-in appetitive systems of feeling against which specific purposes are formed and develop even though the relationship is only infrequently and vaguely in conceptual awareness. All sensory data coming into the central nervous system seem to be constantly processed en route by an organism tuned like a fine violin before such data can give rise to conscious perceptions. It is to satisfy feeling favorable to the well-being of the organism that intention develops and without which there is no attention.

Feeling, then, appears to be the great activating force, the motivator against which all else that happens to the human being is measured and judged. It is this coloration of experience, of feeling, provided by the built-in tuning appetitive systems that not only gives the push and motive power to behavior but that is used by the organism as the guide and the *raison d'être* for assigning significances to all the impingements encountered in life and give the occasions of living their quality, coloration, and intensity.

In the many excellent reports of the activity of the reticular activating system (RAS), various descriptive phrases are used by investigators to describe the amazing capacities it has and the functions it serves. It is, for example, called an "awakening" and "arousal" system; it is involved in "focussing attention"; it is used in "selectivity" and "discrimination of what is important or suitable," "selecting out what is useful to the organism." We know that the RAS is involved in "habituation," disregarding what is not important or helpful or necessary to the welfare of the organism; it "registers impressions" and somehow signals, as a computer, its NOW PRINT order of command for recording experiences that may sooner or later be valuable. What is registered is described as becoming "stored" as "weighted averages" for future use as the RAS serves in "regulating," "controlling," and "policing" the impacts of environmental stimuli. Briefly restated, the reticular activating system apparently has the capacity to assign significances both to what comes in as stimuli from the external and internal environments and signalling what

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behavior, if any, is most appropriate in handling the constant input. William K. Livingston pointed out in 1954 that because of the activity of the RAS it was appropriate and useful to think of a great vertical or transactional component of the nervous system which regulated both input and output (9).

A description of the general situation is given in Ralph Gerard's broadly gauged article "Neurophysiology: An integration":

> One last note is due on subjective experience and objective behavior. The latter depends on efferent nerve impulses to appropriate effectors. These neurons are fired by impinging impulses from other neurons, and so by regression to the afferent messages from receptors. But it is clear that not all entering messages or information bits find their way out in prompt action; some, probably most, end by altering the material nervous system and become stored memories or information. With reverberation and feedback and synchrony, much can happen within the brain—and presumably accompanied by some kind and intensity of consciousness, including the unconscious—with no immediately correlated behavior. Conversely, from this rich central store overt behavior can flow which is not immediately related to any input. Such separation in time and type (and locus) of stimulus and response gives the richness and spontaneity of behavior experienced as volition and rationalized as free will. Behaviorism is thus too narrow a straight jacket comfortably to contain the mind; but the alternative is not the "uncaused cause" of a choice by the psyche. Whatever the degree of contingency at each level or organization, there is no place for a directed random event, and a general chain exists—of causality down levels and of purpose up them (12, p. 1952).

Again, to repeat, it would appear that what Gerard describes as "causality down levels and of purpose up them" is basically due to the organism's ceaseless attempt to achieve a feeling of satisfaction and well-being and avoid antithetical feelings. It is this attempt, beginning with birth, that provides the push and pull of living and gives the matrix for the elaborate extensions acquired throughout life to implement feeling, as the recording apparatus begins to function, to bring in information that is registered, "printed," and stored, all of which is colored either by a sense of pleasure and satisfaction or of unpleasantness or pain.

C. Extension of Feeling and Appetitive Systems

These primitive, built-in, appetitive systems become quickly extended and conditioned, especially in the human being, as the infant, then the child and the adult transact with their internal and external environments. Simple colorations of feeling, such as warmth, satisfaction of hunger, and the like, with which the infant starts out are soon extended through his trial and

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error random movements, signalling to him which ones bring satisfaction and which do not. The infant, as well as the adult, is probably relatively unaware that it is feeling that serves as the guide and director of his activities, impelling him to do what he is doing to make him feel better or not feel worse. Soon, even the young infant begins to learn to direct his behavior and make sounds or movements that will bring his situation to someone's attention for gratification or relief. When the infant begins to develop the capacity to anticipate and make choices, then we can properly say that mind is born.

Concurrently, the infant learns that there is something "out there," independent of his own being that has apparent characteristics and attributes of its own. As he discovers his own body, so he also discovers the externality of the things and people around him, and we can say that at this point Self is born.

Both "mind" and "self" develop, of course, largely according to the particular cultural situation an infant is in as he discovers new and reliable ways of activating his appetitive systems and experiencing the consequences that satisfy or relieve him. He experiences the sensations he does in the way he does as a result of weighing indications in terms of his feelings and of learning more specific purposes within the matrix of feeling as he finds out what is "important" to him and what he can and should be "concerned about." Learning, then, proceeds as a function of the appetitive systems and the accompanying feeling that serves as the compass or selector against which significances are generated and judged and by means of which awareness is extended to new potential satisfactions which can be sought out.

Perceptions are conceived and born in purposeful action. Perceptions instrument feeling. Perceptions are not so much responses to any discrete external "stimuli" as they are to assessed differences. These differences occur and are assessed as constancies develop. When the boundary lines of constancies are crossed in awareness by some situation that appears important or potentially important, then a signal is transmitted that the organism should do something about that situation. So perception involves the continual assessment and reassessment as ceaseless change goes on, both in the external and internal environments.

Generally, we are in complete ignorance of the significance of a situation unless and until some future action on our part discloses its nature and what its significance is to us. We are then in a position to register the assumption on the basis of which we have acted, to store this in our developing "mind," and gradually to build up a more and more reliable pattern of assumptions or weighted averages by means of which we can more appropriately direct our

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choice and behavior to bring about the state of feeling we desire. Gradually, we learn to orient ourselves in relation to what is both possible and potential.

What we attend to in the external or the internal environment are those assessed differences that begin to assume some significance in terms of our feelings. William James, among others, long ago pointed out that "attention" is an intervening variable that itself explains nothing. "Attention" refers to some significance we become aware of because we have learned to sense that it will affect our feeling states in one way or another. A useful phrase to describe this instrumentation of feeling via perception is the colloquial expression "to size up." We are constantly "sizing up" situations, people, sets of symbols, alternative courses of action, etc. As we learn to weigh events and alternatives more successfully, we might say that we develop greater "free will." Obviously where one and only one type of action will aid us, then the role of awareness and consciousness is minimal and action becomes reflexive or habitual.

In this continuous process of "sizing up," of making prognoses concerning what something "is," what its characteristics are, what the probable behavior or probable purposes of other people are, and the like, we judge all new encounters and situations in terms of the up-to-the-now pattern of assumptions which we have found have some pragmatic basis in past experience. Back in 1879, G. H. Lewes noted that "the new object presented to sense, or the new idea presented to thought, must also be soluble in old experiences, be re-cognized as like these, otherwise it will be unperceived, uncomprehended." We continually compare the prognoses of the changing new external and internal events with the pattern of assumptions derived from the past. If we find they conform—that is, if they "work"—then we may either no longer be concerned or have minimal concern. But insofar as they do not work, we must take stock of the situation, reassess it, and make a choice which has some degree of probability concerning its final outcome.

Both the reticular activating system and the cortex make it possible for us to register and store the quality of feeling we have experienced in our continuous transactions. They enable us to build up all manner of constancies—about the characteristics of things, of people, of symbols, of groups and ideologies —that make our appraisals easier and more reliable. We become frustrated when we sense a conflict between the significances we bring to a situation and which have worked in the past but seem to have no correspondence or clear relevance to the emerging situation we face and which requires some decision and action on our part if we are to relieve or enhance our feelings.

All perceiving thus has an anticipatory aspect and the registration or storing

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of a perception has an anticipatory quality that we extrapolate in the immediate or more long-time future. Thus, Grey Walter finds that the "expectancy wave" develops in response to a warning stimulus only when a person knows the warning will be followed by a second stimulus requiring an action or decision (19). The detailed work of Soviet physiologists and psychologists on the orienting reflex points to the same conclusion. All expectation is relative to the assumptions we bring to an occasion. It is an obvious fact in everyday life that if we "expect" the dentist's drill or the doctor's probing to hurt us, if we "expect" some person to act in a particular manner, our subsequent reaction is thereby altered. On the other hand, there are numerous instances of men who have been seriously wounded in battle who, in the excitement and urgency of combat, have felt no pain whatsoever. Every perception that is registered seems to involve an extrapolation of some sort of the potential significances of an event or transaction of a certain matrix of experience with significance always referring back basically to its significance for our feelings.

Just as "memories" are registered and stored, so also are other varieties of psychological states imprinted and stored. Complex psychological qualities and patterns described by words like assumptions, purposes, opinions, and values are similarly learned and registered. They become a crucial part of the internal environment, providing human experience with its varied nuances, its ranges, its capacity to judge what is significant. Without the registration of such processes of mentation and feeling, it would be impossible to account for the reality of much of human experience: of intentions, of curiosity, ingenuity and devising; of persistence, ego-involvements, a sense of morality; of the human being as a unique chooser of possibilities.

Such a conception is completely consistent with modern neurophysiology. A prominent neurologist, for example, has written:

> A central nervous control is exerted even out to the peripheral sense organs, and acts throughout the entire trajectory of the ascending sensory pathways. This control, which was unknown until a few years ago, appears to be exercised in accordance with internal value systems which themselves are affected by previous as well as concurrent appetites and purposes. Thus the modulation of incoming sensory impulses seems to be based upon expectation, relative significance to self, and so forth. Value systems are incorporated in central nervous mechanisms of reward and punishment, emotional experience and expression, and are accessible to the presumably more objective and depersonalized systems of neocortex. This complex set of value systems is built into the chassis, so to speak, and cannot be divorced from either the ascending signals coming in from the outside world, or from the outgoing sensory-control impulses

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> which can modulate these incoming messages. Evidently the nervous system is continually exercising and refining its control over sensory pathways, just as it has long been known to do in relation to motor performance. Presumably the brain can shape our perceptions more or less as it shapes our comportment (8, p. 91).

Obviously it is because of the registration of such qualities that human experience is so different from that of any other organism in its subtlety, its moods, its appreciations, and its anxieties. Marcel Proust, a particularly keen observer of the well-springs of his own experience, reported that "I write nothing of what I see, nothing at which I arrive by a process of reasoning, or of what I have remembered in the ordinary sense of remembering, but only of what the past brings suddenly to life in the smell, in a sight, in what has, as it were, exploded within me and set the imagination quivering, so that the accompanying joy stirs me to inspiration" (16, p. 410). In similar vein, Albert Einstein said to his biographer that

> The most beautiful emotion we can experience is the mystical. It is the source of all true art and science. He to whom the emotion is strange, who can no longer wonder and stand rapt in awe is as good as dead. To know that what is impenetrable to us really exists, manifesting itself as the highest wisdom and most radiant beauty which our dull faculties can comprehend only in their most primitive forms—this knowledge, this feeling is the center of true religiousness. In this sense and only in this sense I belong to the ranks of devoutly religious men (5, p. 284).

As mind and Self develop, behavior becomes infinitely diverse and complex in its quality and range. It is because value systems can become "incorporated in central nervous mechanisms" that any simple pleasure-pain dichotomy or hedonistic theory becomes inadequate to account for a wide range of human behavior. One observes this in the case of mothers who forego many personal gratifications for the welfare of their children, among doctors and priests who give up their rest and comfort for the ill, among soldiers who suffer the hardships of warfare, among martyrs or Buddhist priests and nuns who practice self-immolation, among revolutionary leaders who give up security and worldly pleasure for the sake of their cause. All such behavior seems guided by a desire to achieve the fulfillment of some value system that has become registered.

The "purposes" we learn and intellectualize to ourselves as we act in various situations assume enormous variety both in kind and in degree. But basically the purposes which constitute the intentions we try to fulfill by our actions all seem to derive from the primitive appetitive systems which have become conditioned and refined and which are, furthermore, generally

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beyond our intellectual control. This is confirmed over and over in everyday life occurrences and in psychological experiments which show so clearly that a person with a special interest does not and cannot "size things up" intellectually with any impartiality, that he "sees" things as they are colored by his feelings and not simply as they are rationalized by his intellect.

D. Social Participation

It is abundantly clear to anyone concerned with an understanding of human behavior that, as Macmurray expressed it, "the Self exists only in dynamic relation with the Other" (11, p. 17); that "we are not organisms, but persons. The nexus of relations which unites us in a human society is not organic but personal. Human behaviour cannot be understood, but only caricatured, if it is represented as an adaptation to environment" (11, p. 46). Nearly all human experience is in one way or another experience that involves other people. And unless we are among the tiny minority of persons who for some misanthropic reason choose complete isolation as a way of life, we all have a yearning to communicate with others in one form or another, to experience a sense of participation which will give us a sense of mutuality, an opportunity to express our feelings and have them responded to in some manner, and, in the process, have our feelings satisfied and our sense of isolation and insulation reduced.

Frequently we feel rewarded simply by being with others, hearing their voices on the telephone no matter what the content of conversation, joining with them in almost any kind of shared activity that provides the participation we yearn for. We know that even infant monkeys cannot develop into normal adults without participation of some variety with their peers. The phrase "interpersonal relatedness," so common in the literature of social science, often tends to pass over in its implications the warmth, the overtones of feeling, the love that binds so many people together and that can become a cold, antiseptic phrase when applied to family, community, and other human relationships that we regard as the most valuable and cherished we have. Even psychologists have seemed to shy away from underlining the desire to love and to be loved that shines through so much of their own data and that provides, perhaps, the most satisfying feeling a human being can experience. When feeling is left out of any social equation, including the equation of the social engineer or the responsible official planning national policy, it is ignored at great peril and the equation will sooner or later be found "wrong," in the sense that it will not work. Any ideology will eventually wither away if it does not operationally at least adjust itself to accommodate human feelings.

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In the normal course of development, the Self is expanded as we become "ego-involved" with more and more situations, individuals, groups, or ideologies which both broaden and solidify our sense of Self and Self-constancy and thereby enhance our basic feeling of satisfaction. The manner in which the Self becomes extended throughout the course of living by learning the norms of some reference groups—with the standards of the group becoming the standards of the individual—has been convincingly demonstrated many times experimentally and is, of course, a familiar enough occurrence in everyday life. Similarly, the many studies of conformity, appeals, and propaganda point to the same conclusion: a person is influenced or becomes ego-involved when he perceives that the standards of a social grouping, a belief, or an ideology can provide him with criteria of judgment and action that will enable him to enrich his sense of worthwhileness, whether the group whose standards and norms he accepts be that of a gang engaged in violence, a monastic order, or some variety of political, national, or social movement. From the point of view of "motivation," all such learned identifications serve as vehicles for the extension and expression of feelings, and the particular vehicles utilized are matters of circumstance and temperament to be understood in terms of an individual life-history. All of them provide the social constancies except for which there could be no sense of Self.

Some years ago when the writer was investigating the reasons for the large Communist protest vote in France and Italy, he visited a predominantly Communist *borgata* (slum area) on the outskirts of Rome. The chief police officer for the district was an exceptionally fine, compassionate man much beloved by those in the *borgata* who brought their troubles to him so that he served informally as judge, priest, and general counsellor. The writer complimented him on the decor of the waiting room outside his office with its new and clean furniture, its framed pictures, its newspapers and magazines, its bouquets of flowers in lovely vases. Then the officer explained why he had fixed the room up as he had. Apparently couples who were at odds with each other or men who were accusing each other of some sort of petty crime used to come in to see him and while they were waiting would frequently get into violent arguments that led to beatings or fisticuffs. In trying to cut down this sort of behavior outside his own office, he said he thought it might work if he had the whole place decorated as nicely as he could afford to make it, thus reminding all his visitors symbolically of the norms of a good and decent society. Since the redecoration there had not been a single instance of undesirable behavior. The writer mentions this illustration for it shows in a nutshell the power of social norms that one knows are appropriate as

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guides to action in a particular situation and the violation of which would cause a feeling of distress within the individual who has transgressed.

Apparently ever since the human race began its career on this planet, it has devised ways and means of insuring or enhancing the possibility that the individual could, if not in slavery or prison, experience the value-qualities of feeling that human beings cherish and that make living worthwhile. All manner of organizations and institutions with their rules and regulations have been devised to help guarantee or give expression to the feeling of personal mutuality and the sharing of significances. Rituals, such as those created for baptism, puberty, marriage, or burial, enable a number of people to share the same experience simultaneously, help to bind one person to another, and enrich feeling by deliberately making an event out of what would otherwise be an isolated happening. Such occasions provide people a symbol that allows them to express both their awareness of a situation and their joy or grief, as the case may be, of this awareness. Symbols are created and perpetuated which make wider communication and identification possible; myths develop to give a coherent vision which satisfies until accumulating knowledge corrodes them. All of these social creations—institutions, symbols, and myths—implement the search for commitment and the satisfaction it can bring.

The concept of "culture" itself, from a psychological point of view, can be defined as a relatively stable pattern of common significances which people have learned and which they accept. The term "political culture" which has become part of the vocabulary of the political scientist would, then, refer to a common pattern of significances people have learned and accept that deal with the power and influence structure of a community, nation, or region. The deep and pervading influence of the "cultural patterns" that have been learned with all their norms of behavior is occasionally forgotten, even by the psychologist and social scientist, whose account of modern man sometimes can become naive in its sophistication and its disregard of how much our feelings have become channeled. Thus, for example, Lewis Mumford has pointed out that

> If we could recapture the mentality of early peoples, we should probably find that they were, to themselves, simply men who fished or chipped flint or dug as the moment or place might demand. That they should hunt every day or dig every day, confined to a single spot, performing a single job or a single part of a job, could hardly have occurred to them as an imaginable or tolerable mode of life. Even in our times primitive people so despise this form of work that their European exploiters have been forced to use every kind of legal chicane to secure their services (13, p. 102).

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Investigations of social discontent, such as riots, uprisings, or revolutions, together with any measures taken to avoid them or calm them, will fall wide of the mark if the feelings of the participants are neglected, if their sense of inferiority and frustration are not recognized, if their pride is violated, or if they feel that they or their aspirations are not understood. For no amount of data collected about the "objective conditions," the poor standards of living, the lack of educational or job opportunities will have real meaning until translated into the human dimension.

E. The Matrix of Our Reality Worlds

Throughout the course of his life, then, an individual is an active participant in the creation of his own mind, the development of his own Self, and, more generally speaking, his own reality world. As the writer has often emphasized, this reality world, composed of the whole complex of learned assumptions brought to an occasion of living when it takes on significance because of them, is the only world a person knows, the world within which he has his being. All we can ever know and be aware of about the activities that envelop us is their significance to us in terms of our reality world.

A person tries from infancy onward to build up for himself a pattern of assumptions that will increase the correspondence between what he perceives in the environment around him and what this environment turns out to be when he acts within it to experience some intended consequence. And the intended consequence derives from the built-in tuning mechanisms of feeling. Generally we try to maintain the continuity and constancy of this reality world at the same time we try to enlarge and expand it, as we must, when we meet frustrations and find our previous assumptions do not work. By means of foresight, curiosity, imagination, and devising we try to improve the range of inclusiveness and the validity of our assumptions as we seek what appear to be new potential satisfactions.

This general accounting of what Whitehead called form and flow seems supported by neurophysiology. Ralph Gerard has stated that

> **The physiological zero for activity, alertness, vigilance and behavior in general is not at the absolute zero level of somnolence, sleep, inactivity and inattention. It is somewhere between this equilibrium level and the other pole of continued change, adjustment, tension and vigilance. In the adult, too little environmental challenge leads to fatigue, anxiety and finally sleep. Presumably the adult mammal, at least, tends to regulate the physiological neuron reserve at an optimal level of partial activation of neurons, which makes them easily accessible, and with little over-reverberation or over-synchronization, which tends to withdraw them from the pool (12, p. 1952).**

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The concept of homeostasis, when applied to human motivation, is clearly an inadequate model to account for the essential restlessness characteristic of human behavior.

Throughout this whole process, a person acts as a functional unit because of the vertical functioning of the reticular formation broadly defined which stores the significances of inputs and outputs, filters and regulates them, guides its own organization and reorganization using as its North Star for direction the increasing range and richness of feeling which impels, generates, and sustains more specific purposes over whatever time is required to accomplish them, perhaps a few seconds, perhaps decades. What we call "values" provide the most generally useful compass and standards of worthwhileness and satisfaction, integrating as they do far more cues and significances than can be integrated conceptually. This accounting likewise seems consistent with the interpretations being given by modern neurology. Gerard has also pointed out that

> Attention is directed to a considerable extent in terms of goals or "purposes"; so values—perhaps just "significance"—must be "givens" at any time. They have been established by experience, racial or individual, and are related to survival. Outcomes of action, rated "good" or "bad" on such criteria, can reinforce or attenuate future acts—by reasonably understood mechanisms—and so establish a hierarchy of choices embedded in the nervous system (12, p. 1952).

Hence the apparent push from behind and the pull toward the future as we attempt to experience something we have learned to want. John Dewey held that " 'Reasonableness' or intelligence, as 'the perception of the continuities that take action out of its immediateness and isolation into connection with past and future,' acquires more and more an autonomous power of motivation" (18, p. 752).

The apparent self-generated drives, motives, and needs psychologists have delineated and the apparent self-realization and self-actualization of the human being are, as the writer stated at the beginning, accounts that start at "the top" and have been fashioned to describe the full gamut of behavior, often with the implicit premise that they also explain it. What the writer has tried to do here is to indicate that no matter how subtle human feelings are, they are all playing on the same basic built-in neurophysiological appetitive systems the baby uses, instrumented by the vertical organization of the nervous system, in the human endeavor of becoming; a Self striving to maintain its identity by changing itself in the ceaseless effort to enhance the quality, the adequacy, the range, and the validity of its own reality world.

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